

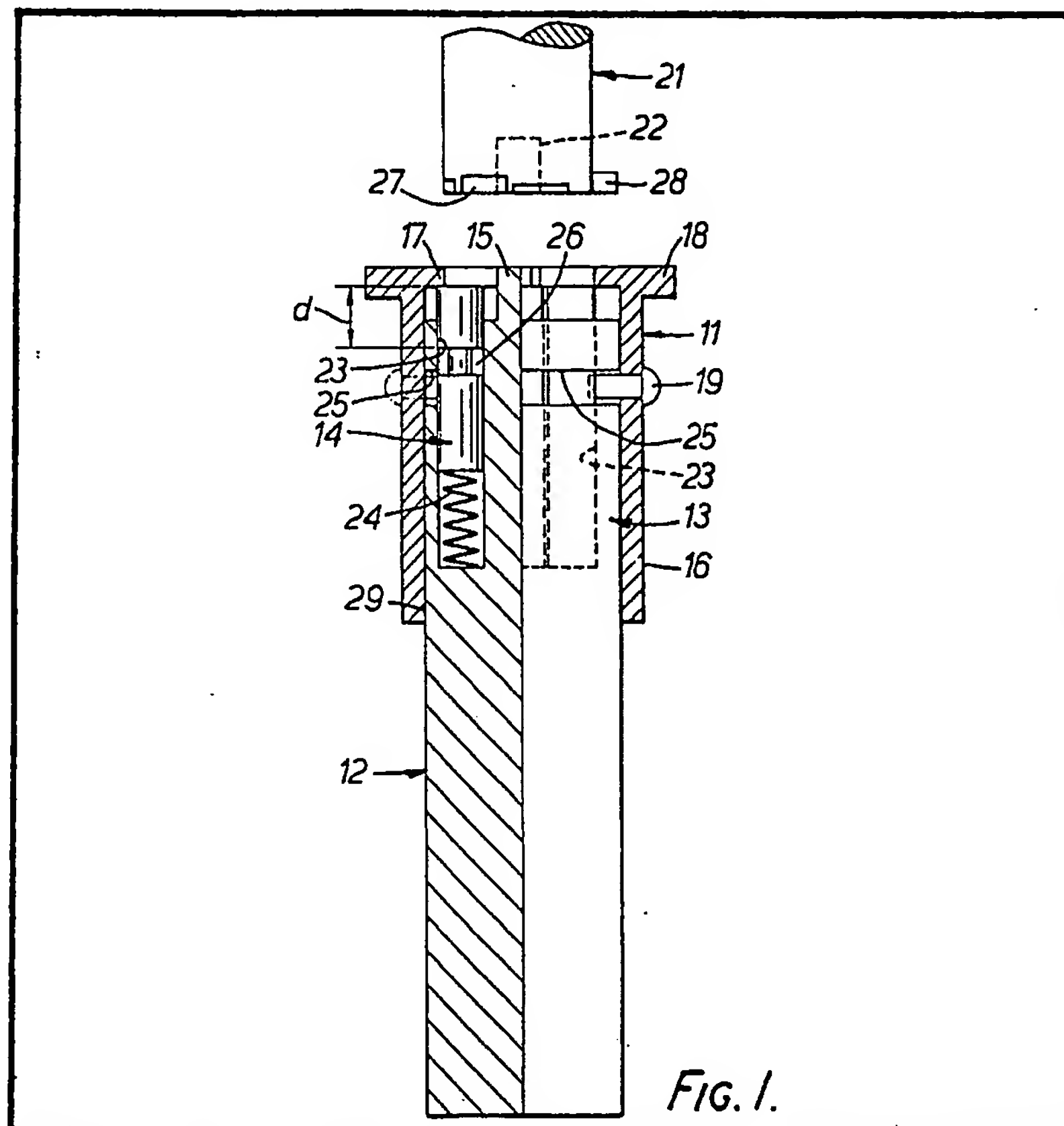
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(54) Security lock

(57) A tumbler lock comprising a housing 11, a spigot 12 with an integral cage 13 rotatably mounted in the housing 11 and six pins 14 slidably located in the cage 13. The housing 11 has six studs 19 which project between the pins 14 to

prevent rotation of the spigot 12. The pins have detents 26 at different positions so that when the correct key 21 is applied to the lock, the pins 14 are all depressed by the appropriate distance, by means of depressions 27 in the key, and the detents 26 register with the studs 19 allowing rotation of the spigot 12.

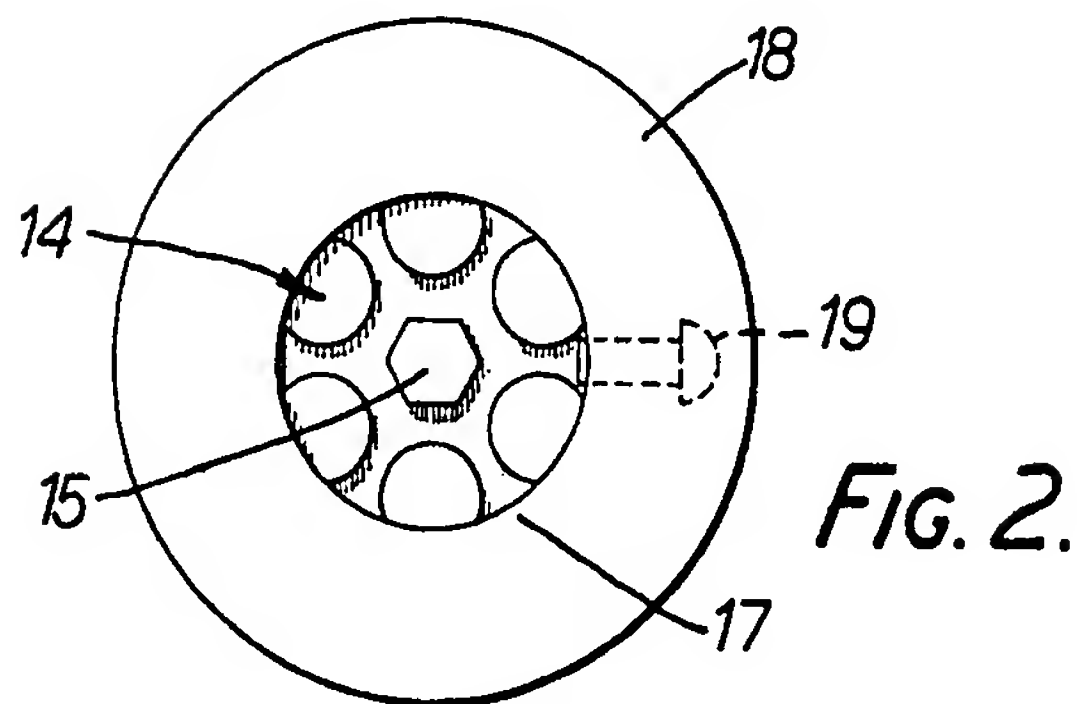
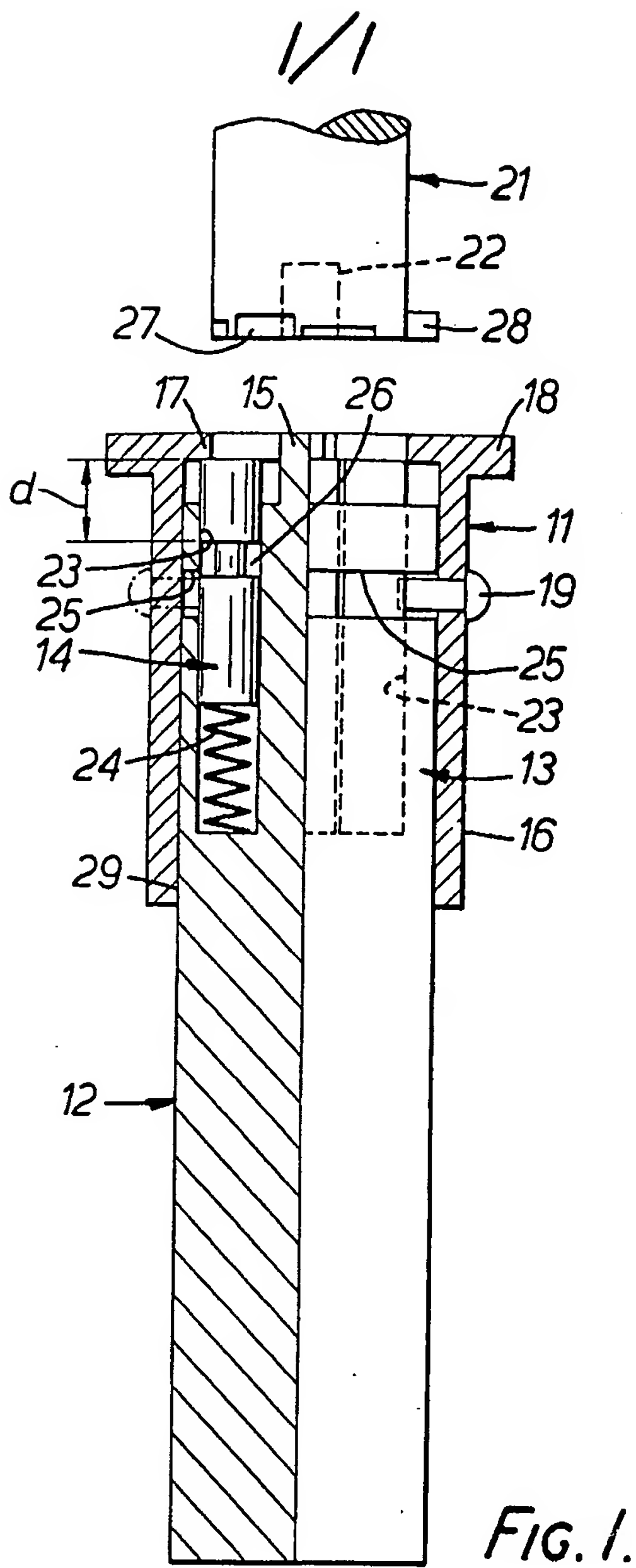


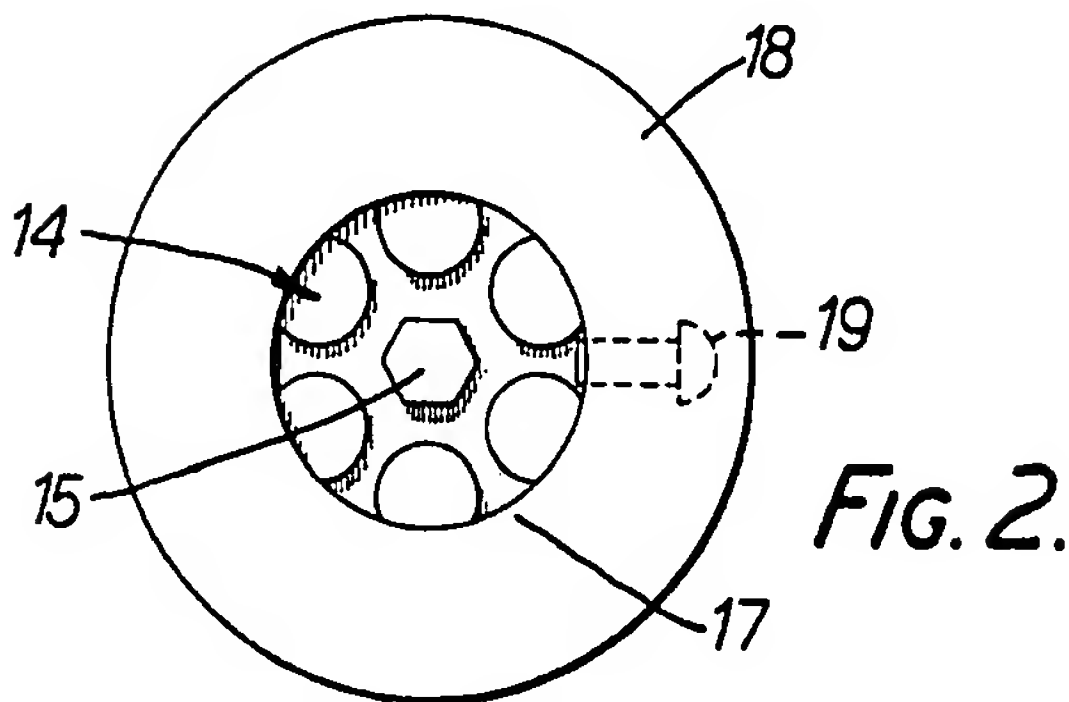
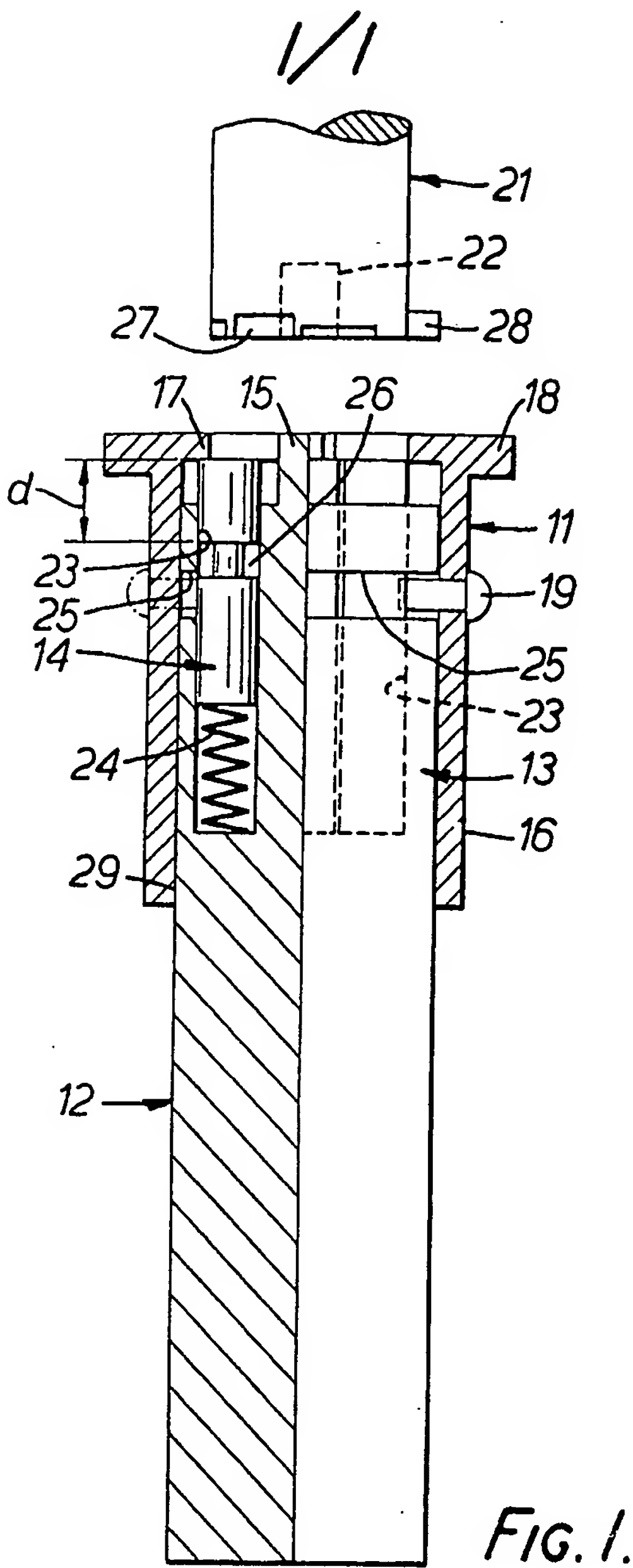
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the key 21. The correct orientation of the key 21 with respect to the pins is achieved by means of a tab 28 on the key which passes through an aperture (not shown) in the inner flange 17.

- 5 It will be appreciated that whereas very precise machining and finishing is necessary to enable the rear pins in a conventional radial pin tumbler lock to re-enter the front cage when the lock is locked, such critical accuracy is not necessary in the construction described above. Similarly, in the conventional construction and differing lengths of the pins must be formed with great precision whereas in the embodiment described above, the positioning of the detents 26 and dimensions of pins are not nearly as critical.

- 10 It will also be seen that in the above embodiment, a major proportion of the spindle 12 is substantial in diameter making the lock inherently less weak. Finally, sealing of the lock may be achieved simply by locating a seal between the spindle 12 and the housing 11 in the region 29.

It has been found by the Applicants that such a lock is capable of a great number of changes.

## 25 Claims

1. A security lock comprising a housing, a spigot, a cage and a plurality of pins, in which the pins are slidably located in the cage, the cage is rotationally fixed with respect to the spindle, and has means for engaging a key, the spindle is rotatably located within the housing, the housing has means for engaging the pins thereby preventing the pins, cage and spigot rotating relative to the housing, and in which the pins are

- 35 each slidable through a predetermined distance to a position in which they do not engage the engagement means, whereby, when the correct key is fitted to the lock, the pins are each moved through their respective predetermined distances, and the pins, cage and spigot may be rotated relative to the housing.

2. A lock as claimed in Claim 1 in which the cage and spigot are integrally formed.

3. A lock as claimed in Claim 1 or Claim 2 in which the means engaging the pins comprise a plurality of studs extending radially inwards further than the radially outward extent of the pins, and each pin has a detent at a position which corresponds to the predetermined distance through which the pin is arranged to slide, the detent being such as to allow the pin to rotate past the stud.

4. A lock as claimed in any of Claims 1 to 3 in which each pin is slidable against the force of a spring.

5. A lock as claimed in any preceding claim in which the means for engaging the key is a hexagonal head arranged to mate with a corresponding recess in the key.

6. A lock as claimed in any preceding claim including a slot in the front of the housing arranged to receive tab on the key to ensure that the key is fitted in the correct orientation with respect to the pins.

7. A security lock constructed and arranged substantially as herein specifically described with reference to and as shown in the accompanying drawings.